

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

- Claim 1. (Currently Amended) A process for producing substantially pure pyrolytic carbon comprising:
providing inorganic particles having a surface area greater than about 10 m²/g;
exposing the inorganic particles to a hydrocarbon gas; ~~and~~
heating the inorganic particles and hydrocarbon gas for a time sufficient to deposit a substantially uniform layer of carbon on the particles[.]; and
wherein the deposition of the substantially uniform layer of carbon on the inorganic particles results in high mass deposition per unit volume of inorganic particles.
- Claim 2. (Original) The process of claim 1, wherein the surface area of the inorganic particles is greater than about 50m²/g.
- Claim 3. (Original) The process of claim 1, wherein the diameter of the inorganic particles is less than about 1 micron.
- Claim 4. (Original) The process of claim 3, wherein the diameter of the inorganic particles is less than about 0.5 micron.
- Claim 5. (Original) The process of claim 3, wherein the diameter of the inorganic particles is less than about 0.1 micron.
- Claim 6. (Original) The process of claim 3, wherein the diameter of the inorganic particles is less than about 0.05 micron.

- Claim 7. (Original) The process of claim 1, wherein the length of the refractory inorganic particles is from about 3 to about 5000 microns.
- Claim 8. (Original) The process of claim 7, wherein the length of the refractory inorganic particles is from about 5 to about 2000 microns.
- Claim 9. (Original) The process of claim 7, wherein the length of the refractory inorganic particles is from about 5 to about 300 microns.
- Claim 10. (Original) The process of claim 1, wherein the layer of carbon is deposited to a thickness of at least about five times greater than the smallest dimension of the particles.
- Claim 11. (Original) The process of claim 1, wherein the layer of carbon is deposited to a thickness of at least about ten times greater than the smallest dimension of the particles.
- Claim 12. (Original) The process of claim 1, wherein the refractory inorganic particles are selected from the group consisting of carbon particles and ceramic particles.
- Claim 13. (Original) The process of claim 12, wherein the refractory inorganic particles are carbon particles.
- Claim 14. (Original) The process of claim 13, wherein the carbon particles are selected from the group consisting of powders, particulates, whiskers and flakes.
- Claim 15. (Original) The process of claim 14, wherein the carbon particles are carbon whiskers.
- Claim 16. (Original) The process of claim 15, wherein the carbon whiskers are vapor grown carbon whiskers.

- Claim 17. (Original) The process of claim 15, wherein the carbon whiskers are carbonized polymeric nanofibers.
- Claim 18. (Original) The process of claim 15, wherein the carbon whiskers have a diameter less than about 1 micron.
- Claim 19. (Original) The process of claim 18, wherein the carbon whiskers have a diameter less than about 0.2 micron.
- Claim 20. (Original) The process of claim 18, wherein the carbon whiskers have a diameter less than about 0.05 micron.
- Claim 21. (Original) The process of claim 12, wherein the refractory inorganic particles are ceramic particles.
- Claim 22. (Original) The process of claim 21, wherein the ceramic particles are selected from the group consisting of powders, particulates, whiskers and flakes.
- Claim 23. (Original) The process of claim 22, wherein the ceramic particles are ceramic whiskers.
- Claim 24. (Original) The process of claim 23, wherein the ceramic whiskers are selected from the group consisting of alumina, silica, silicon carbide, silicon nitride, titanium carbide, titanium nitride, zirconia, ceria and glass whiskers.
- Claim 25. (Original) The process of claim 24, wherein the ceramic whiskers are silicon carbide.

- Claim 26. (Original) The process of claim 1, wherein the hydrocarbon gas is selected from the group consisting of natural gas, methane, ethane, propane, butane, acetylene, ethylene, propylene, butylene, benzene, and mixtures thereof.
- Claim 27. (Original) The process of claim 26, wherein the hydrocarbon gas is natural gas.
- Claim 28. (Original) The process of claim 1, wherein the mixture is heated at a temperature in the range of from about 500°C to about 1700°C.
- Claim 29. (Original) The process of claim 28, wherein the mixture is heated at a temperature in the range of from about 900°C to about 1200°C.
- Claim 30. (Original) The process of claim 1, wherein the process is carried out in a process vessel selected from the group consisting of a fluidized bed process vessel, entrained flow process vessel and a packed bed process vessel.
- Claim 31. (Original) The process of claim 30, wherein the process is carried out in a packed bed process vessel and the hydrocarbon gas is flowed through the packed bed.
- Claim 32. (Original) A substantially pure bulk pyrolytic carbon produced by the process of claim 1.
- Claim 33. (Original) The substantially pure pyrolytic carbon of claim 32, wherein said pyrolytic carbon has at least one dimension less than about 10 microns.
- Claim 34. (Original) The substantially pure pyrolytic carbon of claim 33, wherein said pyrolytic carbon has at least one dimension less than about 3 microns.

Claim 35. (Original) The substantially pure pyrolytic carbon of claim 32, wherein said pyrolytic carbon has a microstructure selected from the group consisting of rough laminar, smooth laminar and isotropic microstructures.

Claim 36. (Original) The substantially pure pyrolytic carbon of claim 32, wherein said carbon is amorphous.

Claim 37. (Original) The substantially pure pyrolytic carbon of claim 32, wherein the pyrolytic carbon is 99 weight percent carbon.

Claim 38. (Original) The substantially pure pyrolytic carbon of claim 32, wherein the pyrolytic carbon is 95 weight percent carbon.

Claims 39-43. (Cancelled)

Claim 44. (Original) A filler comprising the substantially pure pyrolytic carbon of claim 32.

Claim 45. (Cancelled)

Claim 46. (Original) A thermoplastic composition comprising the filler of claim 44.

Claim 47. (Cancelled)

Claim 48. (Original) An electrode comprising the filler of claim 44.

Claim 49. (Cancelled)